

*If you are using a printed copy of this procedure, and not the on-screen version, then you **MUST** make sure the dates at the bottom of the printed copy and the on-screen version match.
The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.
Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.*

C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

8.31.g Acid Flushing

| C-A OPM Procedures in which this Attachment is used. | | |
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| 8.31 | | |
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Hand Processed Changes

| <u>HPC No.</u> | <u>Date</u> | <u>Page Nos.</u> | <u>Initials</u> |
|----------------|-------------|------------------|-----------------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

Approved: _____
Signature on File
Collider-Accelerator Department Chairman _____ Date _____

L. Vogt

Checklist for Acid Flushing

Job WCS #: _____

(If the step does not apply, write NA in check column)

| | <u>Check</u> |
|--|--------------|
| 1. Refer to RWP#_____ for radiological conditions and controls. | _____ |
| 2. LOTO if required. | _____ |
| 3. Floor drains within 15 ft. are plugged. | _____ |
| 4. Close isolation valves. | _____ |
| 5. Relieve pressure. | _____ |
| 6. Disconnect backflush fittings. | _____ |
| 7. Connect return hose from device to pail. | _____ |
| 8. Connect hose from suction of pump to pail. | _____ |
| 9. Connect return hose from device to pail. | _____ |
| 10. Place pump assembly in secondary containment. | _____ |
| 11. Mix AC-500 in pail with water. | _____ |
| 12. Run pump in 10 min. on 10 min. off cycles as necessary. | _____ |
| 13. Remove return hose from pail and place in empty pail with clean water. | _____ |
| 14. Remove pump suction hose from pail and place in pail with clean water. | _____ |
| 15. Turn on pump to run clean water through device, pump and lines until effluent is clear, (Repeat steps 13-15 as necessary). | _____ |
| 16. Remove backflush lines and connect device to system. | _____ |
| 17. Drain excess water from backflush lines. | _____ |

18. Tape hose ends and verify labeling on hoses before storage. _____
19. Open isolation valves. _____
20. Remove LOTO if required. _____
21. Activation check, and/or contamination check, all items removed as indicated by H.P. _____
22. Transfer waste water to approved plastic carboy, or blue barrel with plastic liner (Stock No. K-60649). _____
23. Have HP Ram Tag carboys or drums for transport to 919 Drum Storage Area for processing. _____
24. Liquid potassium hydroxide can be added to drums to adjust pH into the 5 to 9 range. This range is required to ship liquid as radioactive waste. _____

Note:

1. Obtain 5 gallons of potassium hydroxide in 5-gallon carboys from water treatment group.
2. Ensure carboy is labeled with a NFPA diamond, and you check that barrel you get chemical from is a potassium hydroxide barrel.
3. Ensure you wear appropriate PPE as per RWP and MSDS.

25. Mix contents of barrel to be adjusted for 10 minutes, and take a pH reading of contents. _____
26. If pH <5, add ½-gallon of potassium hydroxide to barrel and after 10 minutes of mixing retake pH reading.

27. If pH is still <5, add more potassium hydroxide, but never more than ½-gallon at a time. _____
28. Ensure barrel is labeled with a pending analysis label and clearly write pH on label. _____
29. Contact Environmental Coordinator to draw a sample for radioactive characterization as waste. _____

Signature: _____

Date: _____